CAST LEAF
OPERATIONAL PLAN

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Operational Plan - Cast Leaf

Objectives

1. Optimize the current RCB process for sheet physical properties, production capacity, and environmental goals.

2. Implement a Cast Leaf process that will provide flexibility in meeting world wide capacity needs for individual reconstituted tobacco types.

Operational Plan - Cast Leaf

Objective 1

Optimize the current RCB process for sheet physical properties, production capacity, and environmental goals.

Introduction

The survivability of RCB through primary processing and cigarette production is lower than RL. The New BL (NBL) product, produced with a fine grind tobacco feedstock provides sheet physicals and survivability in line with RL.

With an improved physical quality of NBL and greater understanding of the mechanism for sheet formation, formulation modifications can be made to provide source reduction emissions of ammonia.

Strategies

1. Utilize the Cast Leaf pilot plant to develop new technology applicable to the present RCB process to improve sheet quality without changing the subjective character or delivery.

    Tactics

    1.1 Define the process conditions to produce NBL with improved physical quality compared to RCB.

    (G. Gellatly - 1 Qtr 92)

    1.2 Define process/formulation to produce NBL subjectively equivalent to RCB.

    1.2.1 Qualify Cast Leaf pilot plant to produce pilot RCB equivalent to production RCB.

    (J. Swain - 1 Qtr 92)

    1.2.2 Qualify pilot NBL made at target formulation equivalent to production RCB.

    (J. Swain - 2 Qtr 92)

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1.3 Conduct binder research to define the mechanism for pectin release and sheet formation.

1.3.1 Develop analytical method to quantify pectin release. Both an HPLC and a dialysis-freeze drying method will be evaluated.

(Y. Houminer - 2 Qtr 92)

1.3.2 Determine amount of pectin in each NBL feedstock component.

(Y. Houminer - 2 Qtr 92)

1.3.3 Characterize the pectin from various feedstocks in terms of degree of hydrolysis and molecular weight.

(Y. Houminer - 2 Qtr 92)

1.3.4 Investigate effect of lower ammonia/DAP concentrations on pectin release.

(Y. Houminer - 2 Qtr 92)

1.3.5 Investigate non-ammoniacal chelating agents and bases as potential substitutes for DAP and ammonia.

(Y. Houminer - 4 Qtr 92)

2. Define the potential formulation reductions in ammonia available with required in the NBL while maintaining physical quality improvements of NBL and subjectively equivalent sheet compared to RCB.

Tactics

2.1 Define the process conditions to produce sheet at reduced ammonia with equivalent physical quality compared to standard formulation NBL.

(G. Gellatly - 1 Qtr 92)

2.2 Define process/formulation to produce NBL; with reduced ammonia formulation subjectively equivalent to RCB.

(J. Swain - 2 Qtr 92)

2.3 Quantify the potential reduction in ammonia emissions at the BL plant when retrofit to NBL reduced ammonia formulation.

(G. Gellatly - 2 Qtr 92)

3. Develop recommendation for retrofit of the BL plant to a NBL process

Tactics

3.1 Determine the increased throughput and potential reduction in operating days at the BL plant through conversion to NBL.

(D. Uhl - 2 Qtr 92)

3.2 Define the equipment and processing costs to convert the BL plant to NBL. Study will be conducted in conjunction with Engineering.

(G. Gellatly - 2 Qtr 92)

3.3 Conduct BL plant trial to confirm physical improvements and subjective equivalence of NBL compared to RCB.

3.3.1 Standardize drying lines and conduct dryer line speed up trial to 350 fpm to demonstrate subjectively equivalent processing of RCB at increased throughput.

(D. Uhl - 3 Qtr 92)

3.3.2 Conduct factory trial to produce NBL at recommended process and formulation.

(G. Gellatly - 4 Qtr 92)

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Operational Plan- Cast Leaf

Objective - 2

Implement a Cast Leaf process that will provide flexibility in meeting world wide capacity needs for individual reconstituted tobacco types.

Introduction

The Cast Leaf program was initiated to develop a process that could produce both an RCB and RL substitute in order to address a shortfall in forecasted reconstituted tobacco capacity. A preliminary economic analysis identified that the preferred location for a Cast Leaf facility would be in Europe to support PME reconstituted tobacco sheet needs.

While Cast Leaf will still address any future shortfalls, the recent drop in forecasted reconstituted tobacco requirements reduces the urgency of Cast Leaf product development for this purpose. Cast Leaf does provide other significant advantages for PM Europe.

a. Based upon the feedstock availability supplied by PME Leaf, the Cast Leaf product could be incorporated into European blends over and above current reconstituted tobacco levels to fully utilize available tobacco byproducts. This would offer significant savings in green leaf purchases.

b. A Cast Leaf process capable of producing an RCB and RLB substitute, in conjunction with qualifiifcation of RLTC from LTR, provides a contigenecy sheet source for Europe.

Strategies

1. Develop a business plan analysis for a Cast Leaf plant in Europe.

Tactics

1.1 Develop world wide material balance of both PME and PMUSA byproducts availability and reconstituted tobacco requirements. Work will be coordinated with PME and PMUSA Leaf.

(D. Uhl - 3 Qtr 92)

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1.2 Define feedstock formulation for each reconstituted tobacco to bring PMUSA and PME into total utilization of byproducts.

(D. Uhl - 3 Qtr 92)

1.3 Define quantity of Cast Leaf available for incorporation into PME brands.

(D. Uhl - 4 Qtr 92)

1.4 Conduct economic analysis to support business decision for Cast Leaf installation in Europe.

(D. Uhl - 4 Qtr 92)

2. Develop Cast Leaf product.

2.2 Define process to make physically acceptable guar gum sheet.

(G. Gellatly - 2 Qtr 92)

2.3 Define process/formulation to produce Cast Leaf subjectively equivalent to RL 150B.

(J. Swain - 4 Qtr 92)

2.4 Conduct binder research to optimize binder/cobinder system.

(Y. Houminer - 4 Qtr 92)

2.4.1 Evaluate cobinder systems to improve sheet physicals and drying process.

2.4.2 Evaluate the chemistry of different gums and their interaction with various components of tobacco such as calcium salts.

3. Support PME Leaf in qualification of LTR for production of RLTC type sheet.

(D. Uhl - 2 Qtr 92)

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RESOURCE ALLOCATION
CAST LEAF PROCESS

	1992	1993	1994	1995	1996
Analytical Research	2.0	2.5	2.5	2.5	2.5
Biochemical Research	0.2	0.2	0.2	0.2	0.2
Computer Applications	0.1	0.1	0.1	0.1	0.1
Chemical Research	1.5	1.5	-	-	-
Cigarette Technology	0.2	0.2	0.2	0.2	0.2
Cigarette Testing Services	1.0	1.0	1.0	1.0	1.0
Development Engineering	0.5	0.5	0.5	0.5	0.5
Flavor Development	1.5	0.7	0.5	0.3	0.3
Product Evaluation	0.3	0.3	0.2	0.1	0.1
Physical Research	1.3	0.5	0	0	0
Tobacco Fundamentals	2.5	2.5	2.5	2.5	2.5
Reconstituted Tobacco Division	13.0	13.0	13.0	13.0	13.0
Tobacco Process & Fabrication	2.0	2.0	2.0	2.0	2.0
Total	26.1	25.0	22.7	22.4	22.4

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